EXECUTIVE SUMMARY

Brown and Caldwell (BC) has been retained by the City of Carlsbad (City) to revise and update the existing Master Drainage and Storm Water Quality Management Plan (MDSWQMP). The revisions and updates of the current master plan are described in this document. Henceforth, this document will be called the Drainage Master Plan Update (or DMP Update) and the 1994 master plan will be referred to as the MDSWQMP.

Like the 1994 plan, this DMP Update contains the results of the assessment of drainage areas, an outline of existing storm drain infrastructure, and identification of needed improvements required to accommodate storm water flows resulting from new developments within the city limits. This DMP Update also provides planning level cost estimates and recommendations for developing an updated funding mechanism to ensure adequate funding exists for the construction of future drainage facilities that support proposed development.

Growth projections and land use designations found in the City of Carlsbad General Plan form the basis of the recommended improvements and proposed Planned Local Drainage Area (PLDA) fees developed and reported herein. The PLDA fees were generated after thorough review of information from the City's current fiscal analysis and adhere to the current City ordinances and legal requirements for fee development.

This DMP Update differs from the MDSWQMP in that projects that are deemed essential for the proper function of the City's infrastructure, but cannot be funded with PLDA fees, are also described. These projects include rehabilitation of previously PLDA-funded improvements, Capital Improvement Projects (CIP) that are necessary to meet the City's growth management performance standards, and operations and maintenance (O&M) activities subject to environmental review. Inclusion of these "Non-PLDA" projects in this DMP Update is to facilitate a streamlined environmental review and clearance process as this DMP Update will serve as the foundation for the Programmatic Environmental Impact Report (PEIR).

The California Environmental Quality Act (CEQA) requires state and local agencies to disclose and consider the environmental implication of their actions. It further requires agencies, when feasible, to avoid or reduce the significant environmental impacts of their decisions. An Environmental Impact Report (EIR) is an informational document designed to inform decision makers, other responsible or interested agencies, and the general public of the potential environmental effects of a proposed project. The CEQA document for the DMP Update will be prepared as a Program EIR (PEIR), as defined in Section 15168 of the CEQA Guidelines, which allows for preparation of a PEIR for a series of actions that can be characterized as one large project and are related in connection with the issuance of plans. The PEIR will address potential environmental effects of the implementation of each of the program components, as currently proposed, as well as additional types of activities and projects that are anticipated to be required to maintain the drainage system in the future. This document is intended to meet the goals, policies, and requirements of CEQA.

Chapter 2 discusses the basic watershed information for the four drainage basins, as well as geography, topography, unique features, general land use and design sensitivities. Master Planned Facilities that fall under the Planned Local Drainage Area (PLDA) Fee Program, as well as, the Non-

PLDA projects, Capital Improvement Projects and associated Operations and Maintenance activities are described. Environmental issues have been tentatively identified by comparing proposed project locations and proximity of habitats around the various project components using current GIS mapping. Expected costs for in-place and offsite mitigation is discussed in general, as well as, identification of governing agency, associated permits and related costs.

The purpose of Chapter 3 is to report the results of the limited hydrologic analysis to determine if the proposed PLDA projects are feasible and justified to construct. In addition, the methodology, hydrologic and hydraulic modeling, program selection and data assumptions are discussed. Based on the limited modeling outcome and conceptual designs, it is recommended to proceed with the proposed funding for engineered designs to fit the field conditions and subsequent construction of the said facilities identified within this document.

Chapter 4 presents the Basis of Estimate of Probable Construction Cost for Master Planned Drainage Improvements, along with the quantity derivation and basis for the unit prices for the construction cost estimates. The methodology behind the cost estimates is outlined and detailed since these numbers form the basis for developing the drainage assessment fees for the Planned Local Drainage Area (PLDA) Fee Program.

As part of their future projections, a range of general labor costs for repair, restoration, operations and maintenance projects have been determined using general City labor hourly rates for a typical (8-hour) day of work. General labor categories and activities that are typically encountered by City maintenance forces have been utilized to project future maintenance costs.

Chapter 5 discusses the funding mechanisms developed to cover the capital project costs identified in this Drainage Master Plan Update. As the projects identified in the master plan are required to mitigate the impacts of new development, developer extractions in the form of impact fees are emphasized. As such, the update of the current Planned Local Drainage Area (PLDA) fees is developed while other funding options are also summarized. State law precludes establishment of a facility fee unless it can be shown to be reasonably related to the impacts created by the development. The proposed program meets the intent of this law by requiring new developments to pay the full costs to mitigate their impacts.

The use of development extractions is recommended as the primary source of funding for new storm drainage facilities. Development extractions will include payment of PLDA impact fees on an acreage basis, contributions of developer-built facilities, and lump sum payments under developer agreements. This method is consistent with past practice and the City's Growth Management Program.

The key calculations for these acreage-based fees are based on the incremental costs of new expansion-related projects required for new stormwater drainage, and the additional new drainage volumes from the new developments. Based on this incremental cost approach, fees are based solely on the additional stormwater runoff resulting from development of open space lands.

To satisfy the final build-out of the City, it is assumed that most, if not all capital projects must be constructed to meet the requirements of the Carlsbad General Plan. Due to a limited amount of

developable land per drainage basin, increased costs for construction materials and the number of capital project that remain to be constructed within each basin, the cost for construction was distributed per individual basin. To keep fees to a manageable level, costs were further distributed into three main categories (Low, Medium and High) as shown below.

	Planned Local Drainage Area Fee ($ per Acre Excluding Constrained Area)				
Developed Area Runoff Rate	**PLDA A**	**PLDA B**	**PLDA C**	**PLDA D**	**Citywide Average**
Low Runoff	**$4,564**	**$2,402**	**$1,391**	**$1,425**	**$2,338**
Medium Runoff	**$9,076**	**$4,630**	**$1,968**	**$2,331**	**$4,043**
High Runoff	**$19,778**	**$10,408**	**$6,029**	**$6,176**	**$9,578**

Fee credits will be given for all developments which construct onsite master planned drainage facilities up to the maximum amount of PLDA fee paid by the development. Fee credits will be determined at the time PLDA fees are due and will in all cases be based upon the value of the facility as it is estimated in this report (adjusted for inflation) unless a revised fee schedule is approved in advance of the fee payment.

Based on the analysis described above and discussions with City staff, it is recommended to further explore the above mentioned updated PLDA fee structure. Implementation of the updated rates in this structure must comply with state and local regulations. It is recommended the update be coordinated with the City's legal counsel and presented to affected local developers prior to any request for City Council adoption.

Chapter 6 discusses the applicable regulations and water quality objectives that need to be achieved by the City. As part of the 2001 NPDES permit, the City of Carlsbad (as a co-permittee) was required to prepare several programmatic guidance documents, including a Watershed Urban Runoff Management Plan (WURMP), a Jurisdictional Urban Runoff Management Plan (JURMP), and a Standard Urban Storm Water Mitigation Plan (SUSMP) to address the quantity and quality of the storm water and its impact on the receiving waters.

A WURMP was developed for each watershed covered by the NPDES permit in order to satisfy the watershed-related requirements. The JURMP satisfies the same requirements as the WURMP, but highlights the objectives at a jurisdictional level solely for use within the City of Carlsbad. The SUSMP is a manual designed to provide guidance to applicants on how to comply with NPDES-based storm water requirements for use within the City of Carlsbad.

A discussion of the Basin Plan Objectives that fall within City jurisdiction, as well as, receiving waters that are identified in the 303(d) Listing for impairment are detailed. The new NPDES permit (NPDES No. CAS0108758, Order No. R9-2007-0001) for waste discharge requirements issued by the San Diego Regional Water Quality Control Board includes a requirement for an area wide urban runoff monitoring and reporting program. The City should set aside funds for compliance with this new Order.